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ABSTRACT

The current federal relationship to higher education and the historical underpinnings of this relationship are examined, along with a statistical profile of the federal fiscal impact on higher education. After sketching the historical division of responsibilities for education in the U.S. federal system, attention is directed to the central features of current debates over student aid, research support, tax policies, regulation, data collection and analysis, and the role of the Secretary of Education. Speculations on the outlook for higher education in the post-Reagan era are also offered. Data are provided on estimated federal financial assistance to higher education for student aid, research and development (R&D), and other institutional support with breakdowns for specific types of aid. The legislative history of student aid is considered, along with trends and issues in the 1980s. Included are data on: aid awarded to postsecondary students by type of aid program for 1980-81 and 1986-87, and a comparison of estimated financial aid for students enrolled for advanced degrees by program (federal, state, institutional sources, and private sources) for 1974 and 1984. Additional data covers R&D expenditures at universities and colleges by source of funds for fiscal years 1980 and 1985. (SW)

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The Federal Government and Higher Education

Traditions, Trends, Stakes, and Issues

Lawrence E. Gladieux
and
Gwendolyn L. Lewis

The Washington Office
of the College Board

HE 020 834

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Traditions, Trends, Stakes, and Issues

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The Washington Office of the College Board
October 1987

College Entrance Examination Board,
New York

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Foreword

The framers of the U.S. Constitution lodged no specific responsibility for education with the national government, yet the federal influence on American colleges and universities has been enduring and pervasive. From sponsorship of land-grant colleges in the nineteenth century to the underwriting of student loans and university-based research and development, the federal government has actively and extensively supported higher education in an attempt to serve a variety of national purposes. In the 1980s, debate over Washington's role in fostering educational equity and excellence has intensified as the nation responds to global challenges of economic and military competition as well as continued domestic pressure for social justice and equality.

This report examines the current federal relationship to higher education and its historical underpinnings, providing an overview and analysis that should be useful to policymakers and educators concerned with the future of learning and the role of government. Included in the report is a comprehensive statistical profile of the federal fiscal impact on higher education.

Since its founding in 1900, the College Board has provided a forum for serious consideration of educational issues. During the past 20 years, its Washington Office has built a program of public policy studies that has won respect for its quality, depth and objectivity. We wish to congratulate our colleagues, Lawrence Gladieux, Executive Director of the Washington Office, and Gwendolyn Lewis, Senior Policy Analyst, the co-authors of the report. It is a timely and well-written piece of work. The report was originally prepared as a chapter for the second edition of *Higher Education in American Society*, edited by Philip Altbach and Robert Berdahl (Prometheus 1987). This revised version is published here with permission of the editors.

The authors are grateful to a number of reviewers and critics who provided valuable suggestions. These include Daryl Chubin, Fred Fischer, Fred Hargadon, Janet Hansen, Carlos Kruytbosch, Senta Raizen, Anne Scanley, Pat Smith, Ida Wallace and Patricia Wishart. Data provided by George Nolfi on military spending and Mary Skinner on student aid were particularly helpful. Paul Wolman edited the manuscript. Simone Katchay had primary responsibility for typing it, with help from Diane Erving.

Donald M. Stewart
President

Introduction

The federal government plays an important and varied role in American higher education, providing about a quarter of all college and university revenues.[1] Washington supports higher education through direct student aid and funds for university-based research and development (R&D). Its power is also felt through tax policies, regulation, policy analysis and data collection, and the influence of outspoken and highly visible officials. This extensive federal impact on the campus presents opportunities and problems that demand the closest attention of everyone concerned with the future of higher education in American society.

The importance of federal funding was sharply dramatized by the deep cutbacks in student aid proposed by the Reagan administration in the early 1980s. In the research area, concern has been mounting for more than a decade about whether federal commitments are sufficient to keep the nation among the world's leaders in science and technology. Policy decisions affecting student aid and university-based R&D are especially critical because federal outlays in these areas far exceed those of the states, industry, and other donors.

Federal tax policies affect both the financing of institutions and possibilities confronting students and families in meeting the expense of a college education. Recent tax reform legislation has highlighted the important stakes in the internal revenue code for students and institutions.

Federal spending and tax policies generate another pervasive influence on the higher education system—the weight of regulations. As a condition of federal support, Congress and executive agencies of the government impose a variety of rules and mandates on institutions of higher education.

This study begins with a sketch of the historical division of responsibilities for education in the American federal system. It reviews the means and the dimensions of federal funding of higher education and then discusses the central features of current debates over student aid, research support, tax policies, regulation, data collection and analysis, and the role of the Secretary of Education. The paper concludes with some speculations on the outlook for higher education in the post-Reagan era. The federal involvement is the product of deeply rooted traditions but also of short-term decisions. This paper provides an overview of a relationship that is substantial, diverse, and continually changing.

The Responsibility for Higher Education in the American Federal System[2]

That the states have the basic responsibility for higher education—indeed, for education at all levels—is an American tradition. "Education" is nowhere mentioned in the U.S. Constitution, and the Tenth Amendment, reserving powers not delegated to the central government to the states, has pointed toward a secondary role for the federal government in this field from the beginning.

The lack of a specific mandate to manage education did not deter some of the Founders from considering a national system of education run by the government. President George Washington and several of his successors wanted to create a nation-

1. This figure is based on an analysis of higher education revenues through 1984–85 provided by Mary Skinner and Michael McPherson and reported on in part by McPherson (1987).

2. This section and the next are based on Gladieux et al. (1981).

al university. Yet the majority of early American statesmen favored state, local, and private control of education, and to this day the federal government has not become involved in direct sponsorship of institutions of higher learning apart from the military academies and a few other specialized schools. Still, early federal policy was crucial in promoting higher education as an adjunct of western migration and public land development in the late eighteenth and nineteenth centuries. The Morrill Land-Grant College Act of 1862, for example, fostered what are now some of the nation's great public and private universities.[3]

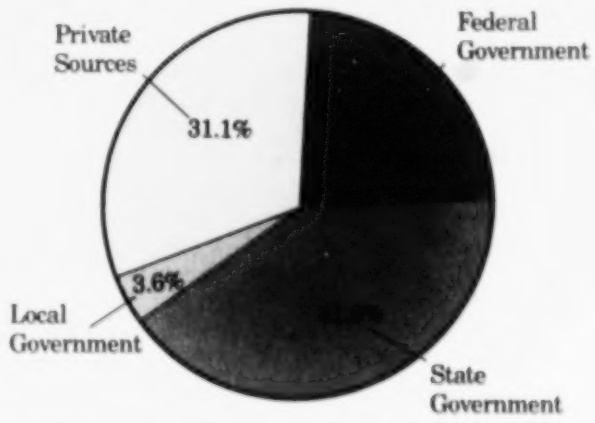
Federal investment in university-based R&D and in student aid via the GI Bill took off following World War II. Beginning with the Soviet challenge of Sputnik, Congress created a variety of aid-to-education programs in the late 1950s and 1960s, and by the late 1970s the federal government became the largest source of direct assistance to individual students for financing their college costs. Fundamentally, however, federal expenditures have remained supplementary to state subsidies and private support of higher learning. Terry Sanford, former governor of North Carolina and former president of Duke University (now U.S. senator), once put it this way:

> The money for the extras came from the national funds. . . . This is the glamour money. . . . It is needed, it has improved the quality. . . . It is proper to remember, however, for all the advantages brought by the extras, the train was put on the track in the first place by the states, and continues to be moved by state fuel and engineers (Sanford 1967, 63).

Over the past two centuries, the states have moved with varying speed to create and expand public systems of higher education and, more recently, to assist private colleges and universities or to purchase educational services from them. Today, the major public support of postsecondary institutions continues to come from the states. Figure 1 illustrates the proportional contributions of federal, state, and local governments, as well as private sources, to financing higher education. The states in 1985 provided 42 percent of college and university revenues and were by far the largest source. But the federal government provided nearly a quarter of such revenues.

The traditional division of responsibilities between the federal and state governments was reaffirmed in the early 1970s, when Congress debated and ultimately rejected proposals for general-purpose federal institutional aid. In passing the

Figure 1
Sources of Revenue to Higher Education Institutions, FY 1985



Source: Tables prepared by Mary Skinner, Brookings Institution, and Michael S. McPherson, Williams College, from various sources including Higher Education General Information Surveys and College Board data.

1972 amendments to the Higher Education Act, Congress held back from a plan of revenue sharing with colleges and universities on the basis of enrollments. Federal legislators emphasized that the responsibility for general support of institutions should continue to rest with the states, with the federal government continuing to aid higher education through programs of special national concern (Gladieux and Wolanin 1976, 226).

This is not to say that the federal government has been unconcerned about the health and capacity of institutions. Certain types of institutions have received special federal attention because of their particular contributions to the national interest. Major research and graduate-oriented universities—particularly their medical schools—are one such category. They are supported by grants and contracts from multiple federal agencies. The historically black colleges are also beneficiaries of federal support, under Title III of the Higher Education Act.

In addition, a few federal programs address in-

3. For the historical development of federal involvement with higher education, see Rainsford (1972). The two private universities benefiting from the Morrill Act are MIT (founded in 1861) and Cornell University (founded in 1865).

Table 1

Estimated Percentage of Undergraduate Students Receiving Financial Aid by Type of Institution Attended, 1985

Type of institution	Any aid	Any federal aid	Any nonfederal aid
4-year	42.2%	34.3%	23.7%
2-year	47.5	37.8	32.9
Public	36.5	29.3	18.9
Private[a]	60.9	50.6	39.3
Nonprofit	53.2	41.2	45.4

Note: The original source gives a measure of the proportion of the estimate in each cell that could be caused by sampling variability.

[a]The residual figures for the private for-profit institutions are not presented because their sample size in the survey is inadequate for inference.

Source: Department of Education, Office of Educational Research and Improvement (1986), Table III-2.

stitutional capacity for research. These include the National Institutes of Health's Biomedical Research Support Grants and the National Science Foundation's Institutional Development Program. Other federal funding goes to support the arts and humanities, occupational and vocational education, international exchanges and studies, the provision of military training, and other purposes. Although amounts spent in such categories are relatively small, they are significant for some institutions and certain parts of the education community.

Student aid also is an indirect subsidy that affects virtually every institution in the country.[4] More than one-third of all postsecondary students are estimated to receive some federal aid, in the form of grants, loans, or work, as shown in Table 1. The proportion of students aided varies by type of institution, but it is significant everywhere—even at low-tuition community colleges. Some of the historically black colleges and other schools serving substantially low-income populations have become especially dependent on federal student aid. Proprietary (for-profit) postsecondary vocational schools make extensive use of the Guaranteed Student Loan (GSL) program as well as Pell grants for their students.

The vigorous politicking surrounding reauthorization and revision of the student aid programs in 1980 and 1986 attests to the high stakes involved for postsecondary institutions. During the congressional debates, representatives of the various sectors—public and private, two-year and four-year institutions—struggled over scores of amendments to the allocation formulas, eligibility criteria, and definitions of student need that determine who gets what, where, and how from the multi-billion dollar student aid programs under Title IV of the Higher Education Act.

Although federal education monies are much sought after, the historical limitations on the federal role persist in the 1980s. The states retain the fundamental responsibility for higher education, primarily through providing general operating support for public systems of colleges and universities. The federal government provides particular kinds of support to meet perceived national objectives, generally without distinguishing between public and nonpublic recipients. The federal government

- Purchases R&D services and supports R&D capacity;
- Fills some gaps (e.g., in college library support, foreign language and area studies, and health professions development); and
- Directs the bulk of its aid to students rather than to institutions, with the aim of removing financial barriers facing individuals who aspire to higher education.

4. An approach to assessing the indirect effects of student aid has been outlined by McPherson (1987).

Mechanisms, Types, and Dimensions of Federal Support

In the nineteenth century, states served as intermediaries in federal patronage of higher education. Proceeds from the sale of public lands provided endowments that helped the states establish and finance the early land-grant institutions, agricultural extension programs, and other forerunners of today's comprehensive colleges and universities. The federal grants to the states were broad and carried few restrictions.

Toward the beginning of the twentieth century, however, the pattern began to change. Federal support became piecemeal and started going directly to the institutions, bypassing state governments. In recent decades, nearly all federal monies have been channeled to institutions (or to departments, schools, and faculty members within institutions) or to individual students. For this reason, a federal-state "partnership" in supporting higher education is meaningful only in a general sense. In fact, there is virtually no conscious meshing of funding purposes and patterns between the two levels of government. One observer has concluded, "With a few modest exceptions, federal postsecondary spending arrangements make no attempt to stimulate state spending, to compensate for differences in state wealth or effort, or to give state governments money to allot as they see fit." (Finn 1975, 18–19) Nor, it might be added, would it be easy to implement a program or funding formula that would effectively achieve any combination of such objectives.

The federal government's activities in higher education are so decentralized and so intermixed with other policy objectives that simply trying to enumerate the programs and tally the total investment can be an accounting and definitional headache. Christoffel and Rice (1975) estimated that Washington sponsors over 400 programs, administered by some 25 separate agencies and cabinet-level departments, that provide some measure of support for postsecondary education.

Creation of the U.S. Department of Education in 1979 consolidated only about a fourth of the 400 programs and less than a third of total federal expenditures for higher education—not substantially more than were encompassed by the old Office of Education in the U.S. Department of Health, Education, and Welfare. The remaining programs and funds are still scattered across the federal scene, from the Department of Defense and the Veterans Administration to the Department of Agriculture, the National Aeronautics and Space Administration, and the Smithsonian Institution. Fragmentary decision making about higher education within the executive branch is mirrored in Congress, where committee responsibilities tend to follow agency structures. Thus, the fragmentation of federal support is almost certain to continue.

Table 2 provides an overview of federal support for higher education. In fiscal year 1985, federal spending totaled about $22 billion, with over 47 percent of this amount going for the cost of student aid, almost the same percentage for R&D in higher education, and the balance for assorted categorical assistance and payments to colleges and universities. The more than $10 billion spent for student aid is about two-thirds of the aid generated because the federal government guarantees and subsidizes private loans and requires nonfederal matching in certain programs.

Table 2

Estimated Federal Financial Assistance to Higher Education by Type and Source, FY 1985
(dollars in millions)

Source	Amount	Percentage
Student Aid		
Department of Education		
Pell, SEOG, SSIG, NDSL, CWS, & GSL	$ 8,959	
Graduate Fellowships	20	
Veterans Administration	874	
Social Security education benefits	35	
Science/Engineering fellowships, traineeships & training grants	255	
ROTC scholarships and other military assistance	184	
Subtotal	10,327	47.4%
Research and Development		
Science and Engineering	7,001	
R&D Centers (FFRDCs)	3,071	
Subtotal	10,072	46.2
Other Institutional Support		
Special institutions	254	
Programs for disadvantaged students	175	
Occupational and vocational	175	
Aid for institutional development	141	
Military academies	522	
Construction and facilities	52	
Other categorical (Fund for the Improvement of Postsecondary Education, Minorities in Science Improvement, International Education, Cooperative Education, and Libraries)	78	
Subtotal	1,397	6.4
Total Federal Aid	$21,796	100.0%

Notes: Some figures differ from those in Tables 3 and 5. Student aid here includes federal program costs only for FY 1985; Table 3 gives total aid available to students for academic year 1986–87, including the volume of borrowing generated by federal loan guarantees and subsidies, as well as amounts contributed by states and institutions. Military training assistance is included here but not in Table 3. Research and development figures are more inclusive than those presented in Table 5. Science and engineering figures are for federal obligations to universities and colleges; Department of Education statistics are for budget authority.

Sources: American Council on Education (1986); National Science Foundation (1986a), Table 8; Department of Education and Department of Defense budget statistics.

Student Aid[5]

Legislative History

From the land-grant college movement to the GI-Bill experience following World War II, public policy has progressively extended educational opportunity to new groups in society. In the past 20 years a major current in this policy stream has been federal aid to students. In 1963, the federal government invested a little less than $200 million in student aid through the fledgling National Defense Student Loan (NDSL) Program and a smattering of graduate fellowships. In the academic year 1986–87, the federal government generated about $15 billion for students in higher education, either through direct appropriations or loan guarantees and subsidies (see Table 3 below). That is more than a 20-fold increase, even after adjusting for inflation. During the same period, enrollments also increased, but by less than threefold.

The growth of student assistance is especially remarkable in light of the controversy surrounding the issue of federal student aid during the 1950s and early 1960s. Congress had approved college benefits for military veterans under the GI Bill, but balked at general scholarships to undergraduates, whether based on financial need or academic merit. Resistance to giving students a "free ride" doomed one such proposal after another in Congress during the Eisenhower and Kennedy years.

The breakthrough came in the mid-1960s. As part of the "Great Society" under President Johnson, the Higher Education Act of 1965 embodied, for the first time, an explicit federal commitment to equalizing college opportunities for needy students. Programs were designed to identify the college-eligible poor and to facilitate their access with grants to replace contributions their families could not afford to make. Colleges and universities that wanted to participate in the new Educational Opportunity Grant Program, later renamed Supplemental Educational Opportunity Grant (SEOG), were required to make "vigorous" efforts to identify and recruit students with exceptional financial need.

The 1965 legislation began to shape a new dynamic in the federal role in higher education. Earlier federal support had been prompted by specific national concerns: fostering a democratic citizenry, sponsoring research in the national interest, meeting perceived personnel shortages, compensating those who had served the country in wartime, and promoting international understanding. In the same vein, military preparedness was the spark for the National Defense Education Act of 1958. The 1960s did not change the national-interest focus of federal aid to education but did put the spotlight on a broader moral imperative: removing inequitable barriers to individual opportunity.

Also in 1965, Congress added a new benefit to the Social Security program that allowed children of deceased, disabled, or retired parents eligible for Social Security to receive benefits as dependents while they attended college.

Appropriations for student aid grew in the late 1960s, whereas other forms of federal support, such as construction of academic facilities, gradually faded in importance. In 1972, Congress and the Nixon administration converged with separate proposals that resulted in elaborating and greatly expanding the federal commitment to student assistance. Amendments to the Higher Education Act created Basic Educational Opportunity Grants as a floor of direct support for all needy students. Now called Pell grants, this program in 1986 provided over $3 billion to nearly 3 million students enrolled in postsecondary education and training.

The 1972 legislation also created the State Student Incentive Grants (SSIG) program to provide federal matching funds for need-based state scholarship programs. Twenty-eight states had already inaugurated scholarships to students, but the federal stimulus of SSIG helped prompt the rest of the states to launch need-based aid programs of their own (Hansen 1979). During the same period, an increasing number of states also responded to federal incentives to help generate credit financing for students under the GSL program.

Pell grants and SSIG rounded out the federal commitment to student aid, which during the

5. Parts of this section are based on Gladieux (1986).

1960s had already come to include GSLs, NDSLs, SEOGs, and College Work-Study (CWS). Assistance generally was targeted on low-income students. But during the mid-1970s pressure began to mount for broadening the base of eligibility for student aid. Proposals for college tuition tax credits built a head of steam in Congress and, to ward them off, the Carter administration went along with a legislative package that resulted in the Middle Income Student Assistance Act (MISAA) of 1978. MISAA liberalized eligibility for Pell grants and opened subsidized loans to students regardless of income or need. Shortly thereafter, Congress let the special allowance to banks participating in GSL float with Treasury-bill rates, assuring a highly favorable return for lenders in the program.

The legislative expansion continued through the Education Amendments of 1980, which further liberalized need analysis for student aid, shielded the GSL program from cost controls, and established an additional loan program called Parent Loans for Undergraduate Students (PLUS).

The 1980 elections ushered in a new administration determined to shrink many domestic social programs. While public and congressional reaction quelled any notion of wholesale cutbacks in student aid, the growth era in student assistance clearly came to an end. Many provisions of the 1980 reauthorization law were repealed or delayed, GSL eligibility was tightened, Social Security benefits for students where phased out, appropriations leveled off, and the purchasing power of federal student aid declined.

Trends and Issues in the 1980s

Between 1980–81 and 1986–87, student assistance generated by federal programs declined in constant (inflation-adjusted) dollars by about 18 percent, as shown in Table 3. State and institutional efforts helped to make up for some of the federal losses. The real value of state grant aid grew 46 percent, and the real value of institutionally funded student aid increased an estimated 41 percent. Even with such changes, the federal government still accounts for the great bulk of funds that help postsecondary students meet their costs of

Table 3

Aid Awarded to Postsecondary Students by Program, 1980–81 and 1986–87
(dollars in millions)

Program	Academic Year 1980–81	Academic Year 1986–87	Percentage Change (in constant dollars)
Federally supported programs			
Generally available aid			
Pell Grants	$ 2,387	$ 3,496	13.2
SEOG	366	379	−20.1
SSIG	76	74	−24.7
CWS	658	662	−21.8
NDSL	695	829	− 7.1
GSL and PLUS/SLS	6,201	8,751	9.8
Subtotal	10,383	14,191	7.9
Specially directed aid			
Social Security	1,883	0	−100.0
Veterans	1,714	517	−76.6
Other Grants	119	48	−68.2
Other Loans	61	210	167.6
Subtotal	3,777	775	−84.0
Total federal aid	14,160	14,966	−17.7
Nonfederal aid			
State grant programs	801	1,508	46.5
Institutionally awarded aid	2,063	3,735	40.9
Total federal, state, and institutional aid	$17,024	$20,209	−7.6

Source: College Board Washington Office (forthcoming 1987).

college attendance, contributing almost 75 percent of available aid.

Overall, student assistance from federal, state, and institutional sources declined by eight percent in inflation-adjusted dollars between 1980–81 and 1986–87. Thus, total student aid shrank somewhat in real terms during the first half of the 1980s. At the same time, both the distribution among types of students and the composition of the pool of aid funds have been shifting.

First, the funds are being shared by more students each year, particularly as students in proprietary vocational schools increase their participation in federal programs. The percentage of Pell grant dollars going to proprietary school students has nearly doubled during the current decade, from 12 to 23 percent (College Board forthcoming 1987). National data on GSL borrowing by proprietary school students are not available, but state figures show such students' share of these funds growing as well. More than one-third of GSL lending in some states is to students in proprietary institutions.

Second, the most dramatic shift in the composition of the aid pool is the emergence of student loans as the most common form of financial assistance. Loans accounted for 17 percent of aid in 1975–76, 41 percent in 1980–81, and 48 percent in 1986–87. Grant aid has gone from a peak of 80 percent of aid 10 years ago, when the Vietnam-era GI Bill was in full use, to 48 percent now. The shift in the grant-loan balance has been the result of three factors: the winding down of Vietnam-era veterans educational benefits that were generally limited to 10 years after service, the phasing out of Social Security student benefits beginning in 1981, and the substantial growth of federally guaranteed and subsidized student borrowing that began in the late 1970s.

In 1986 Congress reauthorized the Higher Education Act for another five years, amending but leaving intact the basic structure of federal student aid under Title IV. Although congressional leaders have lamented the increase in student indebtedness and have said they hoped to reestablish a better balance between loans and grants, the drift toward a system that relies primarily on student debt to finance higher tuitions is not likely to be arrested by the 1986 reauthorization. For its part, the Reagan administration has proposed to shift still more of the burden onto students through loans, on the grounds that students are the principal beneficiaries of their education.

In the 1960s the government undertook to remove barriers to the disadvantaged by providing grants and work-study, while helping the middle-class with what were intended to be largely unsubsidized loans of convenience to meet cash-flow problems. But in recent years, as grant dollars have become scarcer, needy students have increasingly had to resort to substantial borrowing to finance their education, a factor frequently cited in relation to the decline of minority and low-income college enrollees in the 1980s.

At the same time, ironically, middle-class families are being squeezed out of the Guaranteed Student Loan program, which was originally designed for them. Now substantially subsidized by interest paid on behalf of borrowers during the enrollment period and allowances to private lenders to keep them in the program, GSLs cost the government up to 50 cents on every dollar loaned. Increased federal loan costs since the late 1970s have gradually forced Congress to limit eligibility.

The debate over how college costs should be shared among students, parents, and taxpayers will continue. Policymakers are concerned about the possible effect of mounting student debt on students' career choices and on equity of access to higher education.[6] They are looking for remedies, including alternative methods of loan repayment designed to ease the burden for borrowers with low earnings. Variations on the "income contingent" loan concept are being considered. So, too, is the notion of strengthening the tie between college aid and student work or service. Under national service proposals, students would receive benefits in return for a commitment to serve the nation or community, either in the military or in other areas of public need.

Policymakers are also concerned with the role of the family and the importance of parents' planning and saving well in advance of their children's education. Various incentives for parents to save have been proposed in recent years, but most of the ideas that have surfaced are tied to federal tax policy. Educational savings accounts, or "IRA's for Education," allowing families to set aside tax-deferred money or to tap funds already accumulated in individual retirement accounts to pay college costs, are a popular notion. But the recent tax reform movement in Washington dims any early chance for such plans in Congress. Meanwhile, states and institutions are advancing their own

6. For a thorough analysis of the possible effects of increased student borrowing, see Hansen (1978).

strategies, including tuition prepayment plans, allowing parents to invest in a fund that would guarantee prospective college tuition payments for their young children.

In examining the role of parents in the college finance equation, policymakers need to consider the growing number of older students coming from a variety of life circumstances. More adults are returning to higher education for a "second chance" or retraining and midcareer change. There will be pressure to devise financing policies that better accommodate the "nontraditional" student in the years ahead. No one argues that the parents' financial obligation, an assumption traditionally underlying student aid policy, should last indefinitely, but where to draw the line will be a continuing issue in student aid debates.

Another issue will be tension between the principles of merit and need in awarding student aid. Proposals for merit-based scholarships will continue to surface as particular public needs and personnel shortages are identified. For instance, the White House Science Council Panel on the Health of U.S. Colleges and Universities has recommended that one percent of the country's most able students in mathematics, engineering, and the natural sciences be supported for four years of college at an annual level of $15,000 (White House Council 1986).

Graduate Student Assistance

The bulk of direct federal student aid goes to undergraduate students, and the policy debates on student aid typically focus on issues of educational access and choice at the undergraduate level. Yet a significant proportion of the aid available through the loan and work-study programs goes to graduate and professional students.

Federal support for graduate students also comes in the form of research assistantships, fel-

Table 4

Estimated Financial Assistance for Students Enrolled for Advanced Degrees by Program, 1974 and 1984
(dollars in millions)

Program	1974 Amount	1974 Percentage	1984 Amount	1984 Percentage
Federal Programs				
Fellowships and Traineeships	$ 175	9%	$ 140	2%
Research Assistantships	160	8	460	8
Grants with Service Payback Obligations	60	3	180	3
Loans	250	13	2,500	44
College-Work Study	20	1	65	1
Veterans Educational Benefits	300	16	100	2
Subtotal	965	50	3,445	60
State Programs				
Grants	10	1	30	1
Loans	20	1	100	2
Subtotal	30	2	130	3
Institutional Sources				
Assistantships	500	26	1,100	19
Fellowships and Tuition Waivers	100	5	300	5
Loans	20	1	80	1
Subtotal	620	32	1,480	26
Private Sources				
Employer Assistance	250	13	500	9
Fellowships	30	2	60	1
Loans	20	1	70	1
Subtotal	300	16	630	11
Total Assistance	$1,915	100%	$5,685	100%

Source: Hauptman (1986), Table 18.

lowships, and traineeships, and much of this support is built into the funding of R&D. Table 4 presents estimates of graduate student support from federal as well as state, institutional, and private sources.

Overall, grant funds have decreased in recent years even though grants in some science fields have grown. Funding of federal fellowships and traineeships declined by 20 percent between 1974 and 1984. Fewer awards became available, and in many cases federal and private funding agencies reduced the amount of the individual award, in effect covering less of the student's total costs. On the other hand, research assistantships for science and engineering students increased substantially in that period.

With cutbacks, universities have looked to alternative sources. The College Work-Study program, for example, is increasingly used to fund teaching assistants; under CWS, the university must provide only 20 percent matching for federal dollars, rather than 100 percent of a teaching assistant's stipend (Hauptman 1986, 6). The most common recourse for filling the gap, however, has been student borrowing. The federal GSL has become an integral part of financing graduate education. Federal loans made up 13 percent of assistance for graduate students in 1974 and 44 percent in 1984. Loans from all sources went from 16 percent of graduate student support in 1974 to 48 percent in 1984.

Traditionally, graduate institutions and departments have awarded aid primarily on the basis of academic merit. But recent financing trends have created a dual system. Research assistantships and what remains of fellowship support from federal and private sources continue to be allocated on merit, whereas the great proportion of subsidized work, loan, and other aid to graduate and professional students is directed according to need without regard to competitive academic criteria.

Overall, graduate students are experiencing increased difficulty financing their education when financial rewards accruing to an advanced degree, especially in traditional academic disciplines, are uncertain compared to alternative careers. Many observers worry about the quality and numbers of students pursuing graduate work and the adequacy of federal policies to meet national needs for highly trained personnel in the 1990s and beyond.

The mix of students in the pipeline is already changing. The proportion of American citizens obtaining doctorates from U.S. graduate programs has declined from 87 percent in 1960 to 74 percent in 1985 (Coyle 1986, Table C, p. 6). Many of the foreign nationals receiving advanced U.S. degrees wish to remain in the United States, and their staying may help to meet future national needs. But the issue remains whether current policies are adequate to assure U.S. economic growth, creativity, and international competitiveness into the next century.

Research Support[7]

Federal support of R&D and other aspects of science at colleges and universities antedates the federal commitment to student aid, going back to an 1883 law to support agricultural experiment stations. But the amounts of federal support for academic science were fairly small until the needs of World War II caused federal spending to skyrocket. The boom in federally sponsored research continued through the 1950s and early 1960s. In the mid-1960s, however, annual growth rates (in constant dollars) fell from double- to single-digit levels and actually declined in some years in the late 1960s and early 1970s and again in 1982 (National Science Board 1985, Table 5-20, p. 279). This period of decline coincided with a gradual shift in federal emphasis from long-term investment in research capacity to a more short-term approach of procuring specific R&D products (White House Council 1986, 11–12).

Though federal support of academic R&D has not continued to grow at anything like the rates of two and three decades ago, it has increased in recent years and remains a major source of financing for higher education. Moreover, beginning in the late 1970s, nondefense R&D support has increasingly emphasized basic over applied re-

7. Part of this section draws on Hansen (1983).

search. Because basic research tends to be conducted in universities, this trend has channeled proportionately more federal research funds to higher education.

Unlike student aid, federal research assistance is highly concentrated on a relatively small number of major research universities. According to the National Science Foundation (NSF), in 1985 100 doctorate-granting institutions received 86 percent of all federal R&D obligations to academia, a proportion that has remained quite stable over the years (NSF 1986a, Table 1). Fewer than 600 out of more than 2,000 four-year and graduate institutions grant doctoral degrees in science or engineering and/or have R&D expenditures of as much as $50,000 a year, the criteria used by the NSF in monitoring academic R&D finances.

The sources of total academic R&D spending are summarized in Table 5. The primary source is the federal government, which furnished $6 billion or 63 percent of all academic R&D funds in 1985. The federal government's contribution increased (in constant dollars) by 10 percent between 1980 and 1985. Contributions from all other sources, except state and local governments, grew much more. The percentage increase in industry's contribution (from a much smaller base) has been the most substantial.

Although the federal investment in academic science increased overall during the first half of the 1980s, investment in different components of research has been uneven. Project support for R&D, including money to purchase research equipment, has increased substantially, but general support for nonspecific purposes related to scientific research and education has continued to decline in constant dollars. So has support for instructional facilities and (as noted earlier) graduate fellowships and training grants. Federal obligations for R&D plant have more than tripled between 1980 and 1985 in current dollars, but still fall far short in real dollars of the amount the federal government invested in this category 20 years ago.

Project grants, long the mainstay of federal research support, are not designed to sustain what the National Academy of Sciences (NAS 1983, 8) calls the infrastructure of research: "equipment that cannot be justified for any single project, support for preliminary exploration of new ideas, funds needed by beginning scientists to establish a record of performance, and temporary support for experienced scientists who are changing the field of their research." Only a very small part of federal support for academic science is now available in the form of institutional grants for general support of research.

A specific and critical problem affecting the research and teaching capacity of universities and colleges is the deterioration and obsolescence of scientific equipment and facilities. As the National Academy (1983, 101) notes, "The government has invested substantially in academic research equipment and facilities, especially during 1950–1965. Neither the government nor the universities made adequate commitments for sustaining these major elements of research capacity." Research facilities, many built during the boom years of federal support, are increasingly out-of-date and inadequate to handle modern equipment.

Because the dimensions of the "infrastructure" problem are difficult to assess precisely, and there has been concern that corrective action could cost billions of dollars, Congress has mandated a biennial NSF survey of science and engineering re-

Table 5

R&D Expenditures at Universities and Colleges by Source of Funds, FY 1980 and 1985
(dollars in millions)

Source	Fiscal Years 1980	1985	Percentage Increase (in constant dollars)
Federal government[a]	$4,096	$6,003	10.0
State and local governments	491	665	1.6
Industry	237	538	70.5
Institutional funds	827	1,593	44.5
All other sources	409	704	29.1
Total	$6,060	$9,504	17.7

[a]Does not include amounts for federally funded research and development centers (FFRDCs).
Source: National Science Foundation (1986a), Table 1.

search facilities in higher education. The NSF (1986b) issued the first baseline data from this survey in 1986, focusing on doctorate-level institutions. Future surveys will cover all four-year institutions.

Some members of Congress concerned about sustaining the academic base of science have proposed a University Research Facilities Revitalization Act, which would devote a portion of R&D funds of specified federal agencies to replacement or modernization of laboratories and other research facilities at colleges and universities (White House Council 1986, 14). NSF, however, officially opposes this approach, suggesting alternatively that the rate of federal reimbursement of universities' indirect (overhead) costs on research contracts should be adjusted to allow for physical plant and equipment needs.

The Reagan administration has operated from the beginning on the premise that the federal role in R&D should be limited to projects, either long-term or high-risk, that the private sector is not likely to fund (Wilson 1983, 90). It has also tried to promote closer cooperation among government, industry, and universities in science research. The federal government has provided tax incentives for private investment in university-based R&D and has allowed nonprofit organizations and small businesses to benefit from patents resulting from federally sponsored research.

Although the Reagan administration has supported substantial increases in overall federal funding of science research, much of the commitment has been to national defense and to large R&D projects such as the Strategic Defense Initiative (SDI) and supercomputer research. These increased commitments have not necessarily channeled substantial new funds to universities; a great deal of SDI work, for example, is carried out in nonacademic settings. Meanwhile, the administration has effected large reductions in civilian applied research and development projects, especially in the energy and environmental areas.

Notwithstanding the emphases of the Reagan administration, the broad distribution of academic R&D obligations among federal agencies has yet to shift dramatically in the 1980s. Three agencies continued to dominate support in 1985: the Department of Health and Human Services (HHS), the Department of Defense (DoD), and the NSF. About half of all university-based research is in the life sciences, and HHS continues to be the largest contributor of federal funds for science conducted in academic settings, despite repeated Reagan administration proposals to cut funding for the National Institutes of Health in HHS. HHS provided nearly 49 percent of federal R&D support for higher education in 1985, up less than one percent from 1981. DoD provided over 16 percent, also up less than one percent from 1981. NSF accounted for about 16 percent in 1985, up by nearly two percent from 1981. A variety of other departments and agencies, from Agriculture and Energy to Transportation and the Nuclear Regulatory Commission, provide the balance of federal funding for academic R&D.

Although NSF, DoD, and HHS budgets have increased slightly over these years, many of the small agencies, such as the Environmental Protection Agency and the Department of Energy, have sustained relatively large losses. According to the American Association for the Advancement of Science (1986, 16), "Trends in funding in these agencies . . . have only limited effect on the overall academic R&D picture, but they do have major impacts in certain institutions and certain fields and subfields."

When NSF was created in 1950, Vannevar Bush envisioned an agency having broad purview over federal funding of research in the physical sciences, medicine, and defense with a separate science advisory board to evaluate and integrate technical research sponsored by other government departments (Shapley and Roy 1985, 39; Lambright 1976, 202). This vision is far from the reality of the mid-1980s when more than a dozen mission-oriented "technoscience" agencies separately channel funds to academic institutions for a variety of purposes. Although such diffuse and overlapping deployment of government R&D resources may promote the funding of diverse topics and lines of inquiry, the lack of a cohesive federal policy may narrow and duplicate research, promote over-specialization among scientists, and impede efficient effort on problems of major national significance (Shapley and Roy 1985; Lambright 1986).

Despite the apparent preoccupation with short-term procurement, the tide may be turning once again at the federal level, back toward more long-term investment in science. The increased federal emphasis on funding basic research at universities reflects this trend. Moreover, NSF may be slated, after all, for a more prominent and central role in funding university-based R&D in the years ahead. The Reagan administration has announced its support for doubling NSF's budget between 1987 and 1992, consistent with the recommendations of

the White House Science Council Panel on the Health of U.S. Colleges and Universities (1986). An NSF boost of such magnitude would likely strengthen academic science and engineering research, broaden to some extent the range of institutions supported, and restore support for undergraduate science education that was dropped from the NSF budget in 1981. Whether Congress will approve such expansion during a time of overall budget retrenchment, however, remains to be seen.

An issue for universities that is likely to be of growing concern in the late 1990s is the possibility of reduced reimbursement of indirect costs on federal research grants. Currently, individual institutions face two separate federal systems (those of NIH and NSF) for reviewing grant proposals and paying indirect costs. In 1986, the Panel on the Health of U.S. Colleges and Universities recommended that the NSF method, which reduces costs to the government at the expense of universities, be used by all federal agencies.

Tax Policies

In addition to direct funding of students and institutions, the government indirectly assists higher education through tax policies. A variety of exclusions, exemptions, and deductions in the federal tax code over the years have benefited education at all levels. Some of these provisions—for example, the nontaxability of scholarships and fellowships, the personal exemptions parents may claim for students age 19 and over, and the interest deductions on student loans—affect individuals and families in their ability to save for and pay educational costs. Other provisions affect the income and financial arrangements of colleges and universities; for example, their not-for-profit status allows them to receive tax-deductible contributions.

The monetary benefits to institutions and students of this indirect assistance are called "tax expenditures"; they are measured by the estimated amount of federal revenue that would be collected in the absence of such provisions. Prior to the passage of the Tax Reform Act of 1986, estimated annual tax expenditures for higher education totaled over $4 billion.

Indirect support for university research was provided by the 1981 tax legislation, which gave tax credits to industry for investment in cooperative, applied research projects with universities and permitted enhanced deductions for gifts of research and research training equipment. The allowed credit was for increases in such spending over the previous three years. Critics of the 1981 bill argued that R&D funding at colleges and universities would not benefit much from such an incremental approach.

The Tax Reform Act of 1986 balanced the treatment of corporations' investments in basic and applied research. The revised tax credits reflected a growing recognition that basic research requires long-term, relatively constant support and is done best in the universities, and that corporations require encouragement more for basic than for cooperative, applied research.

The Tax Reform Act of 1986 contains many additional changes for 1987 and beyond. Some of the law's new provisions have direct implications for educational institutions.

- The tax deductions for gifts of stocks and other appreciated property, accounting for 40 percent of all giving at private colleges and universities, are tightened.
- The deduction for charitable gifts by nonitemizers is terminated, thus affecting giving to all non-profit institutions. According to Professor Charles Clotfelter of Duke University, the 1986 tax reform will reduce giving to colleges and universities by 25 to 30 percent in 1988 from the level that could otherwise be anticipated (McGrath 1986).
- Rules for tax-exempt financing are changed, potentially affecting both construction of educational facilities and bond financing of student loans.
- The federal deduction for state and local sales taxes is eliminated. Currently, many states rely on sales taxes to finance education at all levels. The loss of this deduction could reduce support for the use of sales taxes to finance public education.

Other changes as a result of the 1986 tax reform will affect students and parents.

- The elimination of tax-deductible Clifford Trusts and changes in taxation of unearned income of children under the age of 14 will reduce the advantage of transferring income from parent to child as a means of saving for educational purposes. For the great majority of families, however, a transfer of income remains a viable college savings technique with a tax benefit.
- An individual will no longer be able to take a personal exemption on his or her own tax return if eligible to be claimed as a dependent on another's return. Thus, students under the age of 23 who currently are benefiting from such an exemption will no longer be able to claim it.
- The deduction for consumer interest, including interest on education loans to students and parents, is phased out between 1987 and 1992. However, home mortgage interest remains deductible, and taxpayers will be able to deduct interest payments on home equity loans used to meet educational expenses.
- Scholarships, fellowships, and federal financial aid grants to graduate and undergraduate students will be counted as taxable income to the extent these awards, either individually or together, exceed the cost of tuition and related expenses. Those most likely to be affected are married students with spouses earning income, athletes receiving full scholarships, and paradoxically, some of the neediest students (those with large grants). On the other hand, for many students the increase in the standard deduction will mitigate the impact and leave them with little or no increased liability.

The overall magnitude and direction of changes in tax expenditures induced by the new law remain to be seen. The legislation must be interpreted by Treasury Department regulations and may be amended by Congress. Two changes, the above-mentioned enhanced tax incentives for corporations investing in university-based research and the extension of the nontaxability of employer-provided educational assistance, are likely to raise tax expenditures on behalf of higher education over what they would be otherwise. The rest of the changes noted above are likely to reduce tax expenditures for higher education.

The battle over tax reform continues in Congress. Bills have been introduced to restore the exclusion of scholarships and fellowships from taxable income and the deductibility of interest on student loans. But recovery of losses in the 1986 law will not be easy for higher education or any other constituency. Other than correcting technical errors, there is a strong disposition in the congressional tax-writing committees to let the new law take effect, hold the line on major features of the 1986 reform, and tighten down where possible on additional tax preferences. With the relentless pressure for deficit reduction, college representatives may be hard-pressed to stem further erosion of tax advantages for higher education in the period ahead. In addition, higher education appears to be experiencing something of a political backlash in the tax reform debate, with a perception in some quarters that well-endowed institutions have abused their tax-exempt status when they have engaged in "creative financing" by taking advantage of tax loopholes.

In mid-1987 the House Ways and Means Committee floated a variety of new tax reform and revenue-raising proposals, including a five percent tax on endowment income of colleges and universities and other non-profit organizations. Also under scrutiny is the question of taxing the unrelated business income of non-profit organizations, money gained from activities not directly tied to the organization's purpose. Small businesses have complained that tax-exempt status gives non-profits an unfair competitive edge and have singled out college and university travel services, bookstores, and research programs as examples.

Apart from the recent tax reform movement, higher education continues to absorb the impact of long-term growth in Social Security taxes and unemployment insurance contributions required by employers. Because college and university budgets are made up disproportionately of personnel costs, higher education is more heavily affected by the rapid rise in payroll taxes than are some other sectors. Moreover, in early 1987, the Reagan administration proposed extending Social Security coverage to the earnings of full-time students; both student and employer would be subject to the Social Security tax under the proposal.

Regulation and Self-Regulation of Higher Education

Dimensions of Regulation

Concern about the impact of federal regulation on the internal affairs of universities was one of the most controversial issues in government-university relations in the late 1970s. One analyst wrote in somewhat apocalyptic tones:

> "Not only legislatures and Federal agencies but the courts as well are willing to scrutinize every exercise of discretion on the basis of a complaint. This is the twilight of autonomy and authority. The prevailing tides of opinion currently are egalitarian and legalistic and they are joined to a simplistic view of society and the likelihood of its improvement." (Scott 1978, 16)

During the 1980s this issue has receded somewhat. The Reagan administration's widely publicized support for regulatory relief ("getting the government off the backs of the American people") has altered the climate of regulation. Regulatory enforcement has slowed in some areas, and over the years colleges have learned to accommodate to the bureaucratic requirements of the federal government, tempering previous conflicts. Some institutions actually have bargained with the federal government to lessen their regulatory burden. For example, Yale and Stanford have accepted lowered indirect cost reimbursement on federal research contracts in exchange for reduced reporting requirements (White House Council 1986, 48).

Federal regulation of higher education derives from two principal sources: the requirements of accountability that accompany the receipt of federal funds; and the dictates of social legislation, as well as executive orders and judicial decisions stemming from such legislation (Wilson 1983, 104–106). To the degree that government officials insist on accountability for the proper expenditure of funds and that congressional mandates addressing a range of social problems remain in force, there will be complexity and strain in the relationship of government and higher education. Tensions are inherent, given the traditions of academic autonomy, the mandates of Congress, the missions of federal agencies, and the responsibility of those agencies for the stewardship of taxpayer dollars.

The academic community has long been wary of entanglement with government, but only a few—mainly independent, religiously affiliated—institutions have consistently refused funds from Washington. The great majority of colleges have accepted federal patronage even though it exacts a price in the expenses of compliance and in the intrusion and distraction of external controls.

Although regulatory pressure has generally eased in the 1980s, it has intensified in some areas. Faculty appear to face a mounting burden of record-keeping and accounting on research contracts; complications in assessing overhead charges have led to detailed "faculty effort reporting" and other forms of "micromanagement" by federal agency program officers that are said to impede creativity and efficiency.[8] In the administration of federal student aid, institutions and their students must cope with increasingly complex procedures for verifying the accuracy of data on application forms. And the 1986 tax reform law may impose additional record-keeping obligations, related to taxation of fellowships, scholarships, and other awards to students.

The federal government affects higher education through a variety of statutes and regulations administered by multiple federal agencies. Some mandates, such as those of the Environmental Protection Agency and the Occupational Safety and Health Administration, affect all types of organizations equally, whereas others, such as the Buckley Amendment on privacy rights of students and Title IX barring sex bias, are specific to educational institutions.

The organizational decision-making style of academic institutions differs considerably from that

8. In response to such concerns, five federal agencies have recently initiated a demonstration project in conjunction with the research universities in the state of Florida under the auspices of the Government-University-Industry Research Roundtable of the National Academy of Sciences. The project's aim is to streamline the research grant and contract system and reduce red tape for the universities.

of the federal government and from those of other organizations, such as businesses, that are recipients of federal support. The differences, not surprisingly, create clashes in expectations. Colleges and universities have a collegial or democratic mode of shared leadership and decision-making that promotes "amateur administration," according to one analyst (Scott 1978, 16). This mode relies on consensus building, a slow process that increases costs considerably in comparison with institutions that are more traditionally hierarchical and bureaucratic in structure. In addition, although colleges and universities benefit from their tax-exempt status for many purposes, they are unable, unlike profit-making organizations, to reduce the expense of federal compliance by deductions from taxable income.

An arena of ongoing regulatory debate and litigation has been the desegregation of public postsecondary education systems. Fourteen states are currently under court order to develop and implement plans to end segregated systems of postsecondary education—or face termination of federal funds. Several states chronically have failed to gain federal approval and are embroiled in litigation ("Virginia Asks" 1985).

One major court action of the 1980s, the *Grove City* case, appears to have had a broad effect in slowing federal antibias enforcement. Previously, laws forbidding bias as a condition for receipt of federal funds had been interpreted to apply to the entire institution receiving the funds. In 1984 the Supreme Court ruled that Title IX prohibiting sex discrimination in federally assisted programs, and by implication other antibias statutes, applied only to the Grove City College student aid office because Pell grants were the only federal aid accepted by the institution (Evans 1986). Pending in the 100th Congress is the Civil Rights Restoration Act, which would revise relevant statutes to make clear that they apply to the entire institution.

Challenges to Self-Regulation

Notwithstanding Washington's substantial regulatory impact on higher education, in important respects the federal government traditionally has relied heavily on *self-regulation* by colleges and universities. Two major examples are the role of voluntary accreditation in determining the eligibility of institutions for federal assistance, and the use of "peer review" for awarding federal research dollars. Both mechanisms have come under challenge in recent years, however.

Since enactment of the Korean War GI Bill, various federal laws have called on the Commissioner (now Secretary) of Education to publish a list of accrediting agencies whose decisions would be acceptable as a proxy for the educational and fiscal soundness of institutions receiving federal funds. Thus, the government has sought quality assurance without probing directly into delicate areas of academic decision making. But since the late 1970s, serious questions have been raised about the adequacy of this approach, and the Department of Education has begun to tighten the criteria for approving accrediting agencies. A 1986 report by an advisory group to the department urged much closer attention in the accreditation process to standards of quality and "truth in advertising" by institutions to assure they deliver the kind of education promised to prospective students.

Likewise, the traditional, heavy reliance on nongovernment scientists to review the merits of research proposals is being challenged from several directions. Critics charge that this "peer review" system has become a self-perpetuating "old boy" network that stifles innovation in academic science and allows a small group of universities to monopolize the bulk of federal research funding. Institutions not in this group tend to chafe at the "unfair advantage" of those who staked out the territory first and are perceived to control peer review. Some institutions have skirted the "agreed upon" peer review systems and have gone directly to Congress seeking earmarked funds for research and research facilities.

In response to congressional concerns, the General Accounting Office (GAO 1987, 48–49) has studied the distribution of research money to universities, including the impact of peer review. The GAO study is limited and inconclusive but tends to support the claim that the results of peer review are reasonably fair. The DoD and the NSF have been examining the fairness issue as well (Cordes 1987). Whatever the outcome of such studies, "pork-barrel science" will continue to be debated, with at least some institutions likely to break ranks and search for project funding commitments through the political process.

In addition to the accreditation and peer review issues, an important example of federal reliance on self-regulation by the academic community is in the conduct of "need analysis" to determine student eligibility for certain forms of financial assistance. Congress and the Department of Edu-

cation traditionally have allowed colleges to use private systems, such as the College Scholarship Service of the College Board, for awarding federal campus-based student aid. Again, such delegation of authority to nongovernmental agencies is being questioned. In recent years, Congress has taken an increasing interest in the specific criteria for measuring family and student financial need. Beginning in 1988, colleges will be required to use systems of need analysis written directly by Congress into Title IV of the Higher Education Act.

Data Collection and Policy Analysis

When first established by Congress in 1867, the Department of Education (later to become the U.S. Office of Education, which in turn became the Department of Education in 1979) was charged primarily with collecting "statistics and facts to show the condition and progress of education in the several States and Territories," and with "diffusing such information respecting the organization and management of schools and school systems and methods of teaching." (Levine 1986, 5) The Commissioner of Education was required to give an annual report on the facts, along with results of studies and his recommendations.

This statistics-gathering function continues to reside with the federal government. When the National Center for Education Statistics (now the Center for Education Statistics) was formed in 1965, it "assumed responsibility for all the general purpose data gathering within the Office of Education and for helping states, through a program of grants, improve their own data-gathering and statistical capabilities."(Levine 1986, 6) It was established as a research arm for education in the federal establishment, parallel to the National Center for Health Statistics, the Agricultural Reporting Service, and the Bureau of Labor Statistics.

Most investment in the effort to collect information has emphasized data for elementary and secondary education, but today higher education relies on the Department of Education and the Center for Education Statistics for data on characteristics of students and institutions. Many college and university administrators complain about the burden of completing surveys from the Center, but recognize that it is essential to have comparable baseline data on finances, curricula, students, and other aspects of higher education.

The Center for Education Statistics has remained relatively small, however, and its budget is meager compared to the centers it was established to parallel. In 1985, total local, state, and federal government spending on health (about $180 billion) was less than for education (over $200 billion), yet spending for federal health statistics was over nine times the $19 million spent for education statistics (Levine 1986, 21–22). In response to criticisms raised in a full-scale evaluation of the Center by the National Academy of Sciences in 1986 (Levine 1986), the staff of the Center has been expanded, and proposals have been made to increase funding for the Center; to sharpen the Center's mission; and to upgrade the quality, timeliness, and policy relevance of its output. Congress, however, has been reluctant to grant the requests for additional funding for education statistics while the Reagan administration is proposing deep cuts in other programs of the Department of Education.

One response to criticism that the Center's studies lack usefulness to policymakers has been the National Postsecondary Student Aid Study, begun in 1986. This ambitious survey is intended to yield comprehensive data on the federal government's largest single investment in education. The study investigates patterns of student support from all sources—federal, state, private, institutional, and family—to inform future policy debates on how to divide the responsibility for paying college costs.

Another mechanism of the Department of Education for serving higher education has been support of centers and laboratories conducting educational research. The Cooperative Research Act of 1954 established a mix of individual research projects and stable research centers devoted to large-

scale, long-term consideration of major problems in education. The National Center for Higher Education Management Systems (NCHEMS) was the sole center devoted to higher education issues until 1985, when a congressionally mandated five-year recompetition instituted new topical areas for research and relocated some centers. Of the 11 new centers, two focus on higher education: the National Center for Research to Improve Postsecondary Teaching and Learning, located at the University of Michigan, and the National Center for Postsecondary Governance and Finance, located at the University of Maryland at College Park. In 1990, new topics will be selected and another competition for the centers will be held.

The Secretary of Education's "Bully Pulpit"

An analysis of the federal government and higher education in the 1980s would be incomplete without reference to a phenomenon quite apart from the tangible, operational activities of the federal establishment: the role of the nation's chief education official, and to an extent the President himself, in shaping the broader public debate on education.

The transformation of the U.S. Office of Education into the Department of Education almost a decade ago did little to consolidate or streamline the many bits and pieces of executive-branch bureaucracy that affect education. But cabinet status has boosted the visibility of education as a national issue. The department is far from a national ministry of education; the American tradition of state and local control rules that out. Recent experience, however, demonstrates that the Secretary is in a strategic position to shape public attitudes—and to spark controversy—on educational issues of the day.

Terrell Bell accepted appointment as Secretary of Education in 1981 to preside over a department that President Reagan had pledged to abolish. But congressional opposition forestalled fulfillment of Reagan's campaign promise. The release of a Department-sponsored report, *A Nation at Risk* (National Commission on Excellence in Education 1983), catapulted the Secretary to prominence in the media and to a lead role in the education reform movement. Now, the Reagan administration, far from proposing to downgrade the organizational status of education in the executive branch, embraced the cause of reform. Education and its importance to the nation suddenly commanded attention, if not support for federal spending, from the White House. Soon, another Department-sponsored study, *Involvement in Learning* (Study Group on Excellence 1984), put the spotlight on the need for strengthening undergraduate as well as elementary and secondary education.

William Bennett, who had written his own report on undergraduate learning as director of the National Endowment for the Humanities, succeeded Bell as Secretary of Education in 1985. Bennett immediately signaled that he would make his office a "bully pulpit" to speak directly to the public.

This Bennett has done. Yet most of the issues on which the secretary has cajoled the public and harangued the education establishment—from student discipline and moral values in the schools to college costs, the curriculum, and quality of education at all levels—are matters over which the federal government has little, if any, direct authority or influence. The secretary has criticized colleges for raising tuition faster than general inflation, yet aside from exhortation, he has little practical leverage on pricing decisions in higher education.

Likewise, on the quality and outcomes of higher education, the secretary has castigated college leaders for failing to assure that students learn anything before they graduate. But, again, the secretary is left with limited tools for influencing educational practice. He has some leverage, as noted earlier, through strengthening federal criteria for recognition of college accreditation agencies and through incentive grants for research and

innovation in student learning techniques, from the Fund for Improvement of Postsecondary Education, for example. His greatest source of influence remains, however, the "bully pulpit."

Under another administration and another secretary, education may not attract the attention and controversy at the national level that it has in the mid-1980s. But it does not seem likely that education will slip from Cabinet status into the backwaters of Washington bureaucracy and out of the national spotlight in the near future.

The Outlook for the Federal Role in Higher Education

Gauging the prospects for federal support of students and colleges in the decade ahead is akin to reading tea leaves. The post-Reagan era is fast approaching, and much will depend on election results. But whoever is in the White House and whatever the complexion of future Congresses, the fundamental struggle over federal spending, taxes, and national priorities will continue. On behalf of higher education there is reason for both caution and optimism regarding the outcome.

On the one hand, the federal fiscal dilemma looms, with annual deficits hovering around $200 billion and a cumulative national debt exceeding $2 trillion. Debts of such magnitude clearly constrain federal creativity and largesse in addressing the nation's educational needs. The federal government may not meet the fiscal targets established by the Emergency Budget Control and Deficit Reduction Act (Gramm-Rudman-Hollings) through fiscal 1991. But under any circumstances there is likely to be continued downward pressure for at least the remainder of the 1980s on both direct spending and tax expenditures for higher education.

On the other hand, favoring the outlook for higher education are a renewed concern for U.S. competitiveness and the recognition that the country's long-run economic and technological position in the world is directly linked to the training of the future work force and the strength of research and teaching in American colleges and universities. This recognition may or may not lead to real increases in the federal investment but should at least help to protect current levels of support from some of the ravages of deficit reduction immediately ahead and from erosion over the long term.

The federal government will undoubtedly continue to make important contributions to enhancing the academic enterprise and equalizing educational opportunities in America. As in the past, federal support will supplement the basic funding provided from state and private sources, and it will spring from objectives such as economic competitiveness rather than from an interest in education for its own sake. Funds and attendant regulations will continue to flow from a variety of agencies in Washington. Such support is untidy, piecemeal, and not without headaches for institutions, students, and states. But the pattern serves a variety of national purposes and, in fact, ultimately may better serve to protect institutional diversity, students' freedom of choice, and independent thought in American higher education than would an overarching federal policy.

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